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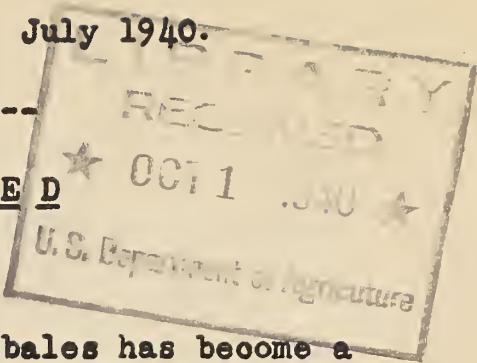


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UNITED STATES DEPARTMENT OF AGRICULTURE  
Agricultural Marketing Service

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COTTON BALE WEIGHTS --  
STANDARDIZATION NEEDED



The wide variation in weights of American cotton bales has become a serious problem in the cotton industry. Cotton growers, ginners, compressmen, cotton merchants, cotton manufacturers, and transportation agencies would all benefit from a greater degree of standardization of bale weights. They can all cooperate to advantage in an effort to solve this problem.

Although the average weight of the so-called American square bale of cotton is approximately 500 pounds, the bales vary in weight from less than 300 pounds to more than 800 pounds. These extremes in weight create a number of serious problems in the handling and marketing of cotton.

Extra heavy bales are disadvantageous to the cotton industry in that:

1. They place undue stress on gin press equipment which often results in the breakdown of such equipment with accompanying loss of time and money to ginners and inconvenience and loss to growers.

2. Such bales are difficult to tie out properly both at the gin and at the compress. They usually go through marketing channels with a ragged and clumsy appearance.

3. They often cause damage to expensive compress machinery.

4. Most of the so-called "air outs" complained of by cotton mills and which develop when the bales are compressed, are found in heavy bales.

5. Such bales slow down compress operations causing loss of time and extra expense in connection with the process of compression.

6. In many cases, they require extra ties to hold them together, and broken ties are a common occurrence in the case of such bales.

7. Bagging does not hold up well on heavy bales. They require the more extensive use of hooks in handling and cause trouble in loading for shipment. Frequently the bale package is damaged in the process.

8. Cotton trade rules provide that bales exceeding certain weights may be rejected. The maximum weight allowed for merchantable bales varies for the different trade organizations from 650 to 700 pounds.

Light weight bales have the following disadvantages:

1. They make it difficult for compresses to obtain the density required for greatest economy in shipping.

2. They are subject to substantial penalties under trade rules and to rejection if under a specified minimum weight. This minimum varies from 300 to 350 pounds for the various trade organizations. Cash penalties are usually assessed against the seller of bales weighing less than 400 pounds. These usually are on a graduated basis and vary for the different trade organizations from \$1 to \$5 a bale.

3. Bales subject to rejection usually are combined with other bales at the compress. This process of "marrying" bales involves an extra charge of \$2 or more. In many instances, this process results in mixed packed bales. Under the gross-weight system of trading, there is also a weight loss to the owner of the cotton amounting to the weight of the bagging and ties on one of the bales.

TO WHAT EXTENT SHOULD BALE WEIGHT BE STANDARDIZED? American gin and compress equipment is designed for bales of 500 pounds. Marketing practices and procedures are based on this weight. Any substantial variation either way from this weight causes serious inconvenience and involves extra costs. If a 500-pound gross is established as a desirable standard weight, a tolerance of 10 percent for variation in the weight of individual bales should be ample for practical purposes. This would provide for an extreme range from 450 pounds to 550 pounds.

WHAT CAN BE DONE TO STANDARDIZE BALE WEIGHTS? The cotton grower with very little inconvenience, can eliminate most extra heavy and light weight bales by the exercise of greater care in sending, to the gin, loads of seed cotton that will turn out bales of approximately 500 pounds. He should ascertain the weight of seed cotton of the variety or varieties grown on his farm, required for a 500-pound bale. Usually he knows or can ascertain the lint turnout or lint percentage for the variety he is growing by checking the first few bales ginned and occasional bales at intervals throughout the ginning season. The number of pounds of seed cotton required for a 500-pound gross-weight bale can be calculated by dividing the lint percentage into the net weight of the size bale desired. For example, if the lint percentage is 35 and the weight of bagging and ties is 21 pounds, about 1,370 pounds of seed cotton would be required for a 500-pound gross-weight bale:  $500 - 21 = 479; \frac{479}{.35} = 1,369$ . Variations in trash and moisture content of the seed cotton throughout the season will necessitate an occasional check of lint turnout. The grower will, no doubt, find it advantageous to have the collaboration of the ginner in working out this problem.

If seed cotton for two or more bales is sent to the gin in the same wagon or truck, an arrangement should be made to separate the cotton for each bale either by a permanent or an improvised partition of some kind.

Sometimes growers boast of their extra weight bales. Their own as well as the interest of other groups in the industry would be better served if they competed with each other in attempting to attain the standard weight of 500 pounds.

The ginner can aid his patrons in working out estimates of the quantities of seed cotton required for bales of standard weight. He should urge growers to bring their seed cotton to the gin in such quantities as will facilitate turning out bales of standard weight. He should keep a record of the tare on all conveyances bringing cotton to his gin, so that he can make a close estimate of the weight of the seed cotton contained in each load. If a conveyance contains seed cotton for more than one bale, and does not have partitions to separate the cotton required for individual bales, the ginner should set his scales on the proper weight so that he may watch the scales and know when enough cotton has been sacked off for a 500-pound bale. If the gin is equipped with a seed scale but not a wagon scale, the ginner can ascertain the amount of seed associated with a 500-pound bale and change from one bale to another when the proper quantity of seed has accumulated in the seed scale. The same methods may be used when ginning seed cotton from a cotton house. Some gin-press operators are able to estimate fairly accurately the proper weight of bales prior to pressing by manual testing of the pressure on the press dogs.

The compressman can establish policies and charges for his services which will encourage the packing of bales of the proper weight.

The cotton merchant and the cotton manufacturer can through their policies in purchasing cotton, encourage the packing of bales of proper weight.

Although some individuals in the cotton industry may think that extra heavy or light weight bales are advantageous from their own standpoint by providing savings in trucking seed cotton, ginning, bagging and ties, compression, shipping, or storage, these usually prove to be short-sighted considerations that place a burden on someone else which ultimately has to be compensated for in some way. A greater degree of standardization of bale weights will facilitate all services incident to the handling and marketing of cotton, will tend toward the improvement of the American cotton-bale package, and the reduction of marketing and handling costs.